Virtual Reality: does it really matter?

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It is not always easy to predict which emerging technologies will also be ephemeral; which will realise their potential and benefit our users, and which will perish. VR (Virtual Reality) technology may not have perished but neither has it greatly advanced in our sector yet. However, the following article proposes that growing expectation and developing infrastructure could lead to a surge in VR popularity over the coming years, bringing with it new opportunities to develop and promote our services. It will share examples from the University of Sussex where colleagues are already using this technology in ways that can be adopted by us all.

As Dr. Brian Jackson explains, 'Virtual Reality (VR) is the use of computer technology to create a simulated environment' (2015). It is true that to create the most immersive of simulated environments, innovative peripherals such as haptic gloves, which 'bring realistic touch and force feedback to virtual reality' (HaptX, 2018), may prove prohibitively expensive. At the other end of the spectrum though, free apps and low cost headsets can enable libraries with even limited budgets to explore VR technology. Cost might not be a barrier to creating VR but why does that mean we should engage with it?

From a user perspective, expectation is likely to grow; take Facebook as an example, a popular social media network for many of our users. In 2014 Facebook bought Oculus, one of the leading Virtual Reality gaming companies (Solomon, 2014) and in 2016 introduced 360-degree photography to the platform (Huang, 2016). Continuing along this path, Mark Zuckerberg, the Facebook CEO, announced last year that he was 'more committed than ever to the future of virtual reality' (Solon, 2017). As testament to this he is planning to release the Oculus Go in the coming months. It is true that Facebook is just one social media platform, but a hugely popular one used by many libraries and library users, and where Facebook goes others will follow.

From a library perspective, VR may present opportunities to better support our users and show our value. At academic libraries for example, applications could include creating VR tours for perspective students or giving distance learners a chance to virtually explore the campus and become a greater part of the community. In November we worked with colleagues in Technology Enhanced Learning to create an exhibit that gave VR access to some of the private labs on campus that are not open to visitors.

Yes, your library Wi-Fi may already be struggling when users simply try to download a journal article but the infrastructure needed to support technologies such as VR is on its way. It is expected that 5G, the next generation of mobile connectivity, will start to come into operation in 2020 (with 24 million users predicted by 2021) and be markedly faster than 4G (Woods, 2017), thereby enabling more effective delivery of VR's simulated environments.

This is not to say that we need to wait to engage with VR though. As previously mentioned, 360-degree spherical photography is already supported by Facebook and free apps such as Google Cardboard Camera. These apps, or dedicated 360-degree cameras if you have the budget, create a 'photo sphere' through an automatic process of image stitching, calibration and blending – you just need to take the picture. This photo sphere can then be viewed through web pages, personal devices, or VR headsets (depending on the level of immersion that you're trying to achieve and the amount that can be spent).

At the University of Sussex we have tried several different approaches. Colleagues at The Keep, which houses our Special Collections, have enriched their presence on Google Maps by adding 360-degree photos of the building: something that could be done by anyone with a smartphone. Once the 360-degree picture

has been taken, through either an app or a camera, there are different ways that the photo sphere can be made available to view. It is possible to upload it to platforms such as Facebook or Google Street View; to host through free services like Momento360; to display through embedded players such as 360Player, or to upload to the web using Google VR View script. For a recent VR tour of one of our Library collections, colleagues used Thinglink, which allows resources to be linked to hotspots in the photo sphere and can be viewed through a Google Cardboard headset.

This may all sound very complex but it is getting easier to create VR on a budget, using technology that we are already familiar with. VR may not be widely used in libraries at present but it's possible this will change if 5G brings the infrastructure and appetite for it. It has the potential to help us engage with our users, and demonstrate our value, in new and exciting ways that we haven't even thought of yet – both virtually and in real terms.

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